

OIB - DC-8 10/18/14 - 10/19/14 Science Report

Aircraft:

[DC-8](#) ([See full schedule](#))

Date:

Saturday, October 18, 2014 - Sunday, October 19, 2014

Mission:

OIB

Mission Location:

Antarctica

Mission Summary:

F02 Larsen D 01

Accomplishments

- Low-altitude survey (1,500 ft AGL) along the coast of the Larsen D Ice Shelf.
- ATM, albedo, KT-19, snow, Ku-band, MCoRDS, gravimeter, and DMS were operated on the survey lines.
- Ramp pass at Punta Arenas Airport at 1,200 ft AGL after takeoff (missed most of the target area).
- Elevation (aka pitch) maneuvers over sea ice for snow and Ku-band radar validation.
- Satellite tracks: ICESat 0033, 0218, 0099, 0114, 0286, 0152
- Repeat Mission: new mission; ridgeline in north was last flown in 2002 by ATM during a joint NASA/Chilean project

Instrument	Operated	Data Volume	Instrument Issues/Comments
ATM	yes	59 GB	None. 100% surface returns.
CAMBOT	yes	225 GB	None.
DMS	yes	99.6 GB	None.
Snow Radar	yes	235 GB	None. Frequent elevation changes due to terrain.
Ku-band Radar	yes	235 GB	None. Frequent elevation changes due to terrain.
MCoRDS	yes	1.7 TB	None.
KT-19	yes	10 MB	None.
Albedo	yes	5.3 GB	None.
Albedo camera	yes	400 MB	None.
Gravimeter	yes	2 GB	None.

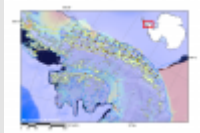
Mission Report (Michael Studinger, Mission Scientist)

Today's flight is a new mission plan, designed to map dh/dt in the area of the Larsen D Ice Shelf, between the southern end of the Larsen C and the northwestern Ronne ice shelves. It is designed primarily along ICESat-1 tracks, supplemented by a 2002 NASA-Chilean line along the Antarctic Peninsula's ridgeline and a new extension to the south. This mission is a condensed version of the three missions designed for this area for the 2012 OIB campaign but never flown. The weather in the survey area was perfect with no clouds and almost no wind. These are very rare conditions for this area.

LiDAR data collection started 10/18/2014 15:10 UTC and ended at 21:00 UTC. In total we collected 5.8 hours of science data. ATM recorded 100% surface returns.

Images:

Figure 1: Today's trajectory in yellow.



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Figure 2: Glaciers flowing into the Larsen D Ice Shelf.



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Figure 3: Mount Verdin on the east side of the Antarctic Peninsula.



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Figure 4: Court Nunatak on the east side of the Antarctic Peninsula.



[Read more](#)

Submitted by:

Michael Studinger on 10/18/14

Related Flight Report:

DC-8 10/18/14 - 10/19/14

Flight Number:

150107

Payload Configuration:

Operation IceBridge 2014

Nav Data Collected:

Yes

Total Flight Time:

11.9 hours

Submitted by:

Frank Cutler on 10/21/14

Flight Segments:

From:	SCCI	To:	SCCI
Start:	10/18/14 12:20 Z	Finish:	10/19/14 00:15 Z
Flight Time:	11.9 hours		
Log Number:	158003	PI:	Michael Studinger
Funding Source:	Bruce Tagg - NASA - SMD - ESD Airborne Science Program		

Purpose of Flight:	Science
Comments:	Larsen D Iceshelf 01

Flight Hour Summary:

	158003
Flight Hours Approved in SOFRS	300
Total Used	292.1
Total Remaining	7.9

158003 Flight Reports

Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining
10/06/14	150101	Science	1.2	1.2	298.8
10/07/14 - 10/08/14	150102	Science	5.2	6.4	293.6
10/08/14	150103	Science	3.7	10.1	289.9
10/13/14	150104	Transit	10.4	20.5	279.5
10/13/14	150105	Transit	3.2	23.7	276.3
10/16/14	150106	Science	11	34.7	265.3
10/18/14 - 10/19/14	150107	Science	11.9	46.6	253.4
10/20/14	150108	Science	11.7	58.3	241.7
10/23/14	150109	Science	11.8	70.1	229.9
10/25/14	150110	Science	11.4	81.5	218.5
10/26/14 - 10/27/14	150111	Science	11.9	93.4	206.6
10/28/14	150112	Science	11.5	104.9	195.1
10/29/14	150113	Science	10.9	115.8	184.2
10/31/14	150114	Maintenance	2.8	118.6	181.4
11/01/14	150115	Maintenance	3	121.6	178.4
11/02/14	150116	Science	10.9	132.5	167.5
11/03/14	150117	Science	11.1	143.6	156.4
11/05/14	150118	Science	11.4	155	145
11/06/14	150119	Science	11.1	166.1	133.9
11/07/14	150120	Science	10.9	177	123
11/08/14	150121	Science	11.4	188.4	111.6
11/10/14	150122	Science	11.2	199.6	100.4
11/11/14	150123	Science	11.2	210.8	89.2
11/13/14	150124	Science	11.4	222.2	77.8
11/14/14	150125	Science	11.5	233.7	66.3
11/15/14	150126	Science	11.2	244.9	55.1
11/16/14	150127	Science	11.1	256	44
11/21/14	150128	Science	11.2	267.2	32.8
11/22/14	150129	Science	10.8	278	22
11/24/14	150130	Transit	2.9	280.9	19.1
11/25/14 - 11/26/14	150131	Transit	11.2	292.1	7.9

Flight Reports began being entered into this system as of 2012 flights. If there were flights flown under an earlier log number the flight reports are not available online.

Page Editor: Erin Justice

NASA Official: Bruce A.

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